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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | | | | | | | | | | | | | | |
|---|---------------|----------------------|--|------------------|----------|--|---------------------|--|----------|--------------|------|--|---|--|-----------|---------------|------------|-------|
| 10/618,675 | 07/15/2003 | Shinichi Mihara | 12219/38 | 5902 | | | | | | | | | | | | | | |
| 7590 Kenyon & Kenyon Suite 700 1500 K. Street, N.W. Washington, DC 20005-1257 | | 01/02/2008 | <table border="1"><tr><td colspan="2">EXAMINER</td></tr><tr><td colspan="2">YODER III, CHRISS S</td></tr><tr><td>ART UNIT</td><td>PAPER NUMBER</td></tr><tr><td>2622</td><td></td></tr><tr><td colspan="2"><table border="1"><tr><td>MAIL DATE</td><td>DELIVERY MODE</td></tr><tr><td>01/02/2008</td><td>PAPER</td></tr></table></td></tr></table> | | EXAMINER | | YODER III, CHRISS S | | ART UNIT | PAPER NUMBER | 2622 | | <table border="1"><tr><td>MAIL DATE</td><td>DELIVERY MODE</td></tr><tr><td>01/02/2008</td><td>PAPER</td></tr></table> | | MAIL DATE | DELIVERY MODE | 01/02/2008 | PAPER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/618,675

Applicant(s)

MIHARA, SHINICHI

Examiner

Chriss S. Yoder, III

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see pages 5-6, filed October 12, 2007, with respect to the rejection(s) of claim(s) 1 and 4 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kaneda (US Patent # 6,992,720).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-9 recites the limitation " $\tau_{600}/\tau_{550} \leq 0.8$ " in line 3. There is insufficient antecedent basis for this limitation in the specification. On page 10, lines 13-17 of the specification, the condition reads as " $\tau_{600}/\tau_{550} \geq 0.8$ ". Therefore, for purposes of examination, claims 8-9 will be examined as understood by the Examiner, based on the description provided by the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaneda (US Patent # 6,992,720).
2. In regard to **claim 1**, note Kaneda discloses an electronic imaging system comprising a zoom lens system and an electronic image pickup device located on an image side thereof so that an image of a subject can be formed on a photoreceptive surface of the electronic image pickup device for conversion into electric signals (column 12, lines 47-67), wherein a stop has a constantly fixed aperture shape (column 12, lines 62-67, the aperture stop 136 is considered a fixed shape), and the zoom lens system satisfies the conditions of having (1) $a \leq 4 \mu\text{m}$ and (2) $F > a$, where a is a horizontal pixel pitch in μm of the electronic image pickup device and F is an F-number of the zoom lens system at a wide-angle end thereof (column 13, lines 24-67, with a pixel pitch of $4 \mu\text{m}$, the minimum F-number is set to 8).
3. In regard to **claim 2**, note Kaneda discloses a medium on an optical path between the zoom lens system and the electronic image pickup device consists solely of air or a non-crystalline medium showing anisotropy (column 12, line 62 – column 13, line 9 and figure 1: 1 and 114; since there are no elements on the optical path between the lens system and the image pickup device, the medium is considered to be air).

4. In regard to **claim 3**, note Kaneda discloses a medium on an optical path between the zoom lens system and the electronic image pickup device consists solely of any one of air, a glass material and a plastic material (column 12, line 62 – column 13, line 9 and figure 1: 1 and 114; since there are no elements on the optical path between the lens system and the image pickup device, the medium is considered to be air).

5. In regard to **claim 4**, note Kaneda discloses an electronic imaging system comprising a zoom lens system and an electronic image pickup device located on an image side thereof so that an image of a subject can be formed on a photoreceptive surface of the electronic image pickup device for conversion into electric signals (column 12, lines 47-67), wherein a stop has a constantly fixed aperture shape (column 12, lines 62-67, the aperture stop 136 is considered a fixed shape), and the zoom lens system satisfies the conditions of having (1) $a \leq 4 \mu\text{m}$ and (2) $F > a$, where a is a horizontal pixel pitch in μm of the electronic image pickup device and F is an F-number of the zoom lens system at a wide-angle end thereof (column 13, lines 24-67, with a pixel pitch of $4 \mu\text{m}$, the minimum F-number is set to 8), and a mode of reading signals from the electronic image pickup device has a sequential reading function (column 12, lines 53-61, a CCD inherently performs sequential reading).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda (US Patent # 6,992,720).

7. In regard to **claim 5**, note the Kaneda discloses an electronic imaging system comprising a zoom lens system, as recited in claim 4 above. Therefore, it can be seen that Kaneda fails to disclose the use of an interlaced scanning reading mode wherein an odd-number field or an even-number field is used to perform the sequential reading.

Official Notice is taken that the concepts and advantages of using an interlaced scanning reading mode wherein an odd-number field or an even-number field is used to perform the sequential reading are notoriously well known and expected in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kaneda device to include the use of an interlaced scanning reading mode wherein an odd-number field or an even-number field is used to perform the sequential reading in order to reduce the amount of data output each from the image sensor each frame so that the can be captured at higher speeds.

8. In regard to **claim 6**, note Kaneda discloses an electronic imaging system comprising a zoom lens system, as recited in claim 4 above. Therefore, it can be seen that Kaneda fails to disclose the use of an interlaced scanning reading mode wherein an odd-number field and an even-number field are simultaneously exposed to light to mix signals from adjacent fields, thereby performing the sequential reading. Official Notice is taken that the concepts and advantages of using an interlaced scanning reading

mode wherein an odd-number field and an even-number field are simultaneously exposed to light to mix signals from adjacent fields, thereby performing the sequential reading are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kaneda device to include the use of an interlaced scanning reading mode wherein an odd-number field and an even-number field are simultaneously exposed to light to mix signals from adjacent fields, thereby performing the sequential reading in order to increase the dynamic range of the image sensor.

9. In regard to **claim 7**, note the Kaneda discloses an electronic imaging system comprising a zoom lens system, as recited in claim 4 above. Kaneda also discloses that the image pickup device is a CCD (column 12, lines 53-61). Therefore, it can be seen that Kaneda fails to disclose that the CCD uses a progressive mode as a reading mode. Official Notice is taken that the concepts and advantages of using a progressive mode as a reading mode are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kaneda device use a progressive mode as a reading mode in order to increase the resolution of the output image as well as to eliminate visual artifacts associated with interlaced readout.

Allowable Subject Matter

Claims 8-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US004290675: note the use of an imaging system that has different transmittance levels for different wavelengths of light.

US003971065: note the use of an imaging device that teaches the use of different transmittance levels for each color.

US004759347: note the use of an IR cut filter.

US007098955B2: note the use of an imaging system having a relationship between the pixel pitch and the aperture size.

US007038722B2: note the use of an IR cut filter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (571) 272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CSY
December 21, 2007



LIN YE
SUPERVISORY PATENT EXAMINER